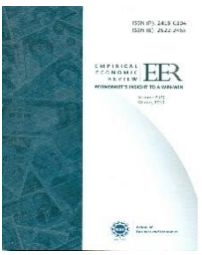

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Article: **Causality between Macroeconomic Indicators and Stock: An Econometric Analysis**

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Causality between Macroeconomic Indicators and Stock Market: An Econometric Analysis

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Abstract

We attempt to examine the causality between economic growth and stock market performance of Pakistan for the years 1992M01-2012M12. For this purpose, the test devised by Granger (1988) has been employed. The results reveal a bi-directional causality between economic growth and stock market performance of Pakistan proxied by Karachi Stock Exchange capitalization (KSECAP). Once this bi-directional causality is established, a system of simultaneous equations has been specified and estimated by 2SLS to find the impact of economic growth and selected macroeconomic indicators on the stock market of Pakistan. The estimated results lead to the conclusion that economic growth affects the stock market of Pakistan and vice versa. The implications of the study are of paramount importance, especially for the emerging economies. Hence, bearing in mind the role of macroeconomic indicators in the performance of stock market a better policy can be formulated to enhance the growth of capital markets that in turn will increase the economic growth of emerging economies such as Pakistan and vice versa.

Keywords: Granger causality, KSE, macroeconomic indicators, simultaneous equations, 2SLS
JEL Classifications: E6, E5, C5

Introduction

Both in developed and developing countries stock markets transfer capital from the savers to the users and in turn, play a vital role in economic growth (Sohail & Hussain, 2010). This role is further

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enhanced when it comes to emerging economies such as Pakistan where savings are low, financial institutions are not well-established, and the implementation of rules and regulations is not as per their true spirit. For example, inefficient emerging stock markets abet investors to make economic returns (Arshed et al., 2019). Hence, the performance of the stock market can be enhanced with better risk management, low transactions costs, and full access of the investors to the information. This will ultimately be translated into economic growth in both developed and emerging economies (Abdelbaki, 2013). Meanwhile, the direction of the movement of stock prices is critical to explore the direction of causality (Nyasha & Odhiambo, 2018). This invokes further the importance of examining causality between macroeconomic indicators and Pakistan stock market performance and vice versa.

Many studies have examined the link between economic growth and stock market performance in developed countries; however, few studies have examined this relationship in the context of emerging countries such as Pakistan. Therefore, the study in hand examines the causal relationship between economic growth (GDP) and macroeconomic indicators including taxes on products (TAX), consumer price index (CPI), money supply (M2), nominal US-dollar and Pak-rupee exchange rate (EXR), gross domestic savings (SAV), nominal interest rate (INT), and Pakistan stock market performance. Stock market performance was gauged by market capitalization measured by: 1. Karachi Stock Exchange capitalization (KSECAP) 2. Karachi Stock Exchange index (KSEI) 3. Karachi Stock Exchange returns (KSER) 4. Karachi Stock Exchange trade values (KSETV) and 5. Karachi Stock Exchange turnover (KSETO).

The aim of this study is to find out the answer of the following three questions:

i) Does causal relationship exist between the macroeconomic performance of Pakistan (measured by GDP) and the performance of its stock market?
ii) If causality does exist, then is it unidirectional or bidirectional?
iii) If a bi-directional causality exists between the performance of the stock market and macroeconomic performance, then

what is the effect of stock market on Pakistan's economy and vice versa?

The current study varies from prior investigations in three ways. Initially, for the first time, it gauges the performance of a stock market using five different parameters as stated above. Secondly, it includes taxes on products (TAX) as an independent variable along with other macro indicators. Thirdly, it specifies a system of simultaneous equations after establishing a bi-directional causality between the macroeconomic performance of Pakistan and the performance of its stock market. Then, this system is estimated using 2SLS. The significance of the study is further enhanced as the expected outcomes can lay down a foundation to formulate policies in the future for individuals, private sector, public sector, and multinationals of emerging and developed countries, respectively. The rest of the study is planned as follows: Section 2 reviews the previous studies, Section 3 is about data collection and the devised methodology, the estimated results are presented and discussed in Section 4 and finally, Section 5 concludes the study.

Previous Studies

To date, the researchers are striving to find the link among stock market returns and macroeconomic indicators including gross national product (GNP), exchange rate, money supply, consumer price index, and interest rate. However, only a few of them such as Wongbanpo and Sharma (2002) studied the causality among these variables. They uncovered causation effect between stock indices and economic growth, stock indices and inflation, money supply and stock prices, and interest rate and stock prices in the case of Indonesia, Malaysia, and Thailand. Moreover, they explored the bi-directional causation effect between stock prices and exchange rate for Philippines and Singapore. On the contrary, for Egypt and South Africa, Enisan and Olufisayo (2009) revealed a unidirectional causation between stock market development and economic growth. Financial development including stock market is among the vital determinants of economic growth as shown by the study of (Caporale et al., 2004).

Alternatively, stock market development can be proxied in different ways as Abdalla and Dafaalla (2011) measured it using two

ratios namely the size of the market and liquidity. The size of the market is calculated using the ratio of market capitalization to GDP. Liquidity is the ratio of trading volume to GDP for the time period 1995-2009. They found causation effect of stock market development on the economic growth of Sudan. Similar results were generated when stock market development was gauged by stock market capitalization (Mundena et al., 2019).

Likewise, unidirectional causality is identified as the ratio of stock market indices to economic growth in USA, Turkey, Brazil, Russia, India, and China (Tekin & Yener, 2019). Additionally, stock market size which is the same as stock market capitalization also causes economic growth. Similarly, stock market development is proxied by the value of stocks traded as a fraction of market capitalization which has causation effect on economic growth (Zivengwa et al., 2011). Contrarily, economic growth has causation effect on stock market development when proxied by stock market turnover and stock market traded (Ho & Odhiambo, 2012).

On the other hand, an empirical work found cointegration and then causation between stock market development and economic growth along with macroeconomic indicators including effective exchange rate, net interest spread, and financial depth in Bangladesh (Mamun et al., 2018). Likewise, Tripathi and Seth (2014) found that causation affects stock market performance and macro variables. Moreover, Al-Majali and Al-Assaf (2014) found a bi-directional causality between stock market and time deposit interest rates, the size of private sector credit and inflation.

Ali et al. (2010) examined the link between USD/PKR exchange rate, consumer price index, money supply, balance of trade, industrial production, and KSE-100 index for the period 1990M07 to 2008M12. The results recognized cointegration or a long-run equilibrium relationship between industrial production and KSE-100 index. Similarly, Akbar et al. (2018) identified cointegration between KSE-100 index and macroeconomic factors. Ho and Odhiambo (2012) also identified a long-run relationship between stock market development and economic growth but found no relationship between prices of KSE index and USD/PKR foreign exchange rate, consumer price index, money supply, and balance of

trade. The results of Ali et al. (2010) indicated that the absence of causation between macroeconomic factors and stock exchange prices. Similarly, Hasan (2018) explored the long-term effect of stock market size on real economic growth but found no causation effect in the long-term. On the other hand, FDI was found to have a bilateral causal relationship with Bombay Stock Exchange (Chauhan, 2020).

However, some studies have provided evidence that causality does exist between stock market development and economic growth, even in the absence of a long-run equilibrium relationship among them. For example, Marques et al. (2013) found that stock market and economic growth are not cointegrated, although a short-term bi-directional causation effect exists. Similarly, Giri and Pooja (2017) identified that exchange rate, inflation, and economic growth directly affect Indian stock prices. Further, causation is from economic growth and foreign direct investment to stock prices, respectively. In contrast, Ndlovu et al. (2018) explored causation between stock market development and economic growth.

At the end of this section, it worth be noted that the previous studies examined causality between macroeconomic indicators and the performance of stock markets by employing various methods. The current study, for the first time, specifies a system of simultaneous equations and estimates it using 2SLS. Moreover, to examine the causal relationship between macroeconomic indicators and the performance of the stock market of Pakistan, tax on product is included as an additional independent variable. Hence, the current empirical research will contribute to the literature of economics and finance in a novel way.

Data and Methodology

Data

Stock market performance of Pakistan is measured in the following five different ways for the period 1992M01-2012M12. Firstly, Karachi Stock Exchange capitalization (KSECAP) in US$, that is the product of the nominal value of outstanding shares and the number of outstanding shares are obtained from the World Development Indictors (World Bank, 2017; State Bank of Pakistan,

2018). Secondly, Karachi Stock Exchange index (KSEI) is obtained from the website of (Shah, 2013). KSEI is generated by $R_t = P_t / P_{t-1}$, where R_t is the current return of KSE-100 and is a ratio of KSE-100 index closings at time "t" and "t-1", respectively. Thirdly, Karachi Stock Exchange return (KSER) is KSE-100 index month-end closing from the website of (Shah, 2013). Fourthly, Karachi Stock Market trades value (KSETV) refers to the total value of stocks traded and obtained from the websites of KSE (KSE, 2015; SBP, 2018). Fifthly, Karachi Stock Exchange turnover (KSETO) ratio is calculated by dividing the total value of stocks traded by average market capitalization and the data was obtained from the Pakistan Economic Survey, Government of Pakistan, Ministry of Finance (2018) and the website of the SBP (2018), respectively. Meanwhile, macroeconomic indicators' data such as money supply in a broader sense (M2) and data on inflation proxied by consumer price index (CPI) was obtained from the WDI for the period 1992M01-2012M12. Likewise, USD/EXR data was collected from International Financial Statistics (IFS) and interest rate (INT) from Banking Statistics of Pakistan complied by State Bank of Pakistan. However, data on savings (SAV), taxes on products (TAX), and gross domestic product (GDP) have been taken from the WDI. Chow's (1971) linear interpolation technique is used to convert the required yearly time series to monthly time series. In this study, all time-series are monthly.

Methodology

Pair-wise Granger causality (G-causality) between economic growth (GDP) along with selected independent macroeconomic indicators and the performance of KSE proxied by KSECAP, KSEI, KSER, KSETV, and KSETO has been checked separately using Wald test and the results are reported in Table 1 below. Further, to investigate G-causality this study specifies and estimates the following G-causality test initially determined by (Granger, 1988). An Indicator of Pakistan Stock Market Performance = f [GDP and selected independent macroeconomic indicators].

It is worthy to mention here for the readers and users of this study that five different models (one for each of the proxies of the performance of KSE) have been estimated and their statistical

results are reported in Table 1. Once G-causality is established between the performance of the Pakistan stock market and GDP along with selected independent macroeconomic indicators, then there is a need to expand the horizon of the empirical analysis to check the bi-directional G-causality using the following model (hereafter, referred to as the System of Simultaneous Equations) through pair-wise G-causality test.

An Indicator of Pakistan Stock Market Performance = f [GDP of Pakistan and selected independent macroeconomic indicators], Economic Growth of Pakistan = f [Indicators of Pakistan Stock Market Performance and selected independent macroeconomic indicators].

Results and Their Analysis

Statistical results and their analysis are presented in two sections. Firstly, sub-section 4.1 presents pair-wise G-causality test results (as well as the analysis) of the selected macroeconomic indicators including GDP and each one of the Indicators of Stock Market Performance. Then, sub-section 4.2 presents the estimated results (obtained by 2SLS estimation technique) along with the analysis of the system of simultaneous equations.

Pair-Wise G-Causality Test Results and their Analysis

The estimated results of Model 1 as given in Table 1 indicate that the null hypothesis-- economic growth (GDP) does not G-cause KSE proxied by KSECAP-- cannot be accepted as per evidence provided by the associated F-statistic (=3.59476 with p-value of 0.0289), which corroborates the premise that economic growth of Pakistan affects the performance of the stock market and is aligned with (Wongbanpo & Sharma, 2002). Likewise, the results of Model 1 indicate G-causality from KSECAP to GDP (F-statistic = 4.59894) with p-value of 0.0109) or put differently, stock market performance can be an indicator of economic growth. These results endorse a bi-directional G-causality between economic growth and stock market performance proxied by KSECAP and consistent with (Marques et al., 2013; Al-Majali & Al-Assaf, 2014; Mamun et al., 2018) but different from those of (Enisan & Olufisayo, 2009; Ho & Odhiambo, 2012). Moreover, the results of Model 1 indicate uni-directional G-

causality in the performance of the stock market proxied by KSECAP to inflation (CPI).

Table 1

Pairwise G-Causality Test between Pakistan Stock Market Performance Indicators, GDP and Other Selected Macroeconomic Indicators

Indicators of the Performance of Pak. Stock Mkt. and the Corresponding F-Statistics					
Null Hypothesis	M-1 KSECAP F-Stat	M-2 KSEI F-Stat	M-3 KSER F-Stat	M-4 KSETV F-Stat	M-5 KSETO F-Stat
GDP does not G-Cause the performance of Pak. Stock Mkt.	3.595* (0.029)	2.666 (0.071)	7.228** (0.001)	0.137 (0.872)	1.603 (0.203)
Performance of Pak. Stock Mkt. does not G-Cause GDP	4.598* (0.010)	0.640 (0.528)	0.544 (0.581)	1.018 (0.363)	2.994 (0.052)
TAX does not G-Cause the performance of Pak. Stock Mkt.	1.961 (0.143)	1.666 (0.191)	14.009** (0.000)	0.175 (0.839)	0.719 (0.488)
Performance of Pak. Stock Mkt. does not G-Cause TAX	2.345 (0.097)	2.404 (0.092)	1.922 (0.145)	1.0893 (0.338)	0.323 (0.724)
CPI does not G-Cause the performance of Pak. Stock Mkt.	0.682 (0.507)	6.013** (0.003)	8.759** (0.000)	0.985 (0.375)	2.839 (0.060)
Performance of Pak. Stock Mkt. does not G-Cause CPI	5.327** (0.005)	0.356 (0.700)	1.503 (0.224)	1.211 (0.299)	0.911 (0.403)

Indicators of the Performance of Pak. Stock Mkt. and the Corresponding F-Statistics					
Null Hypothesis	M-1 KSECAP F-Stat	M-2 KSEI F-Stat	M-3 KSER F-Stat	M-4 KSETV F-Stat	M-5 KSETO F-Stat
M2 does not G-Cause the performance of Pak. Stock Mkt.	2.449 (0.088)	0.040 (0.960)	5.720** (0.004)	0.139 (0.870)	1.369 (0.256)
Performance of Pak. Stock Mkt. does not G-Cause M2	1.571 (0.209)	0.526 (0.592)	1.952 (0.144)	0.722 (0.487)	1.998 (0.138)
EXR does not G-Cause the performance of Pak. Stock Mkt.	2.430 (0.090)	4.069* (0.018)	2.116 (0.083)	0.490 (0.613)	2.053 (0.130)
Performance of Pak. Stock Mkt. does not G-Cause EXR	2.148 (0.119)	0.435 (0.648)	4.880** (0.009)	1.220 (0.297)	0.239 (0.787)
SAV does not G-Cause the performance of Pak. Stock Mkt.	1.750 (0.176)	1.297 (0.275)	0.297 (0.744)	0.753 (0.472)	5.638** (0.004)
Performance of Pak. Stock Mkt. does not G-Cause SAV	0.045 (0.956)	0.172 (0.842)	0.151 (0.859)	4.873** (0.008)	1.719 (0.181)
INT does not G-Cause the performance of Pak. Stock Mkt.	0.602 (0.549)	4.948** (0.008)	6.390** (0.002)	5.303** (0.006)	0.864 (0.423)

Indicators of the Performance of Pak. Stock Mkt. and the Corresponding F-Statistics					
Null Hypothesis	M-1 KSECAP F-Stat	M-2 KSEI F-Stat	M-3 KSER F-Stat	M-4 KSETV F-Stat	M-5 KSETO F-Stat
Performance of Pak. Stock Mkt. does not G-Cause INT	1.934 (0.147)	1.987 (0.139)	0.081 (0.922)	0.298 (0.742)	0.584 (0.558)

Notes: 1. ** and * denote that F-Statistic is significant at 1% and 5% level of significance, respectively.
2. Figures in ( ) below F-Statistics are their p-values.

The estimated results of Model 2 as presented in Table 1 also indicate that the null hypothesis -- GDP does not G-cause the performance of KSE proxied by KSEI -- cannot be rejected (F-statistic =2.66613 with p-value 0.64020). It corroborates the premise that economic growth has no causation effect on stock market performance or in other words, is not a predictor of the performance of stock market proxied by KSEI and vice versa. Moreover, Table 1 reveals uni-directional G-causality from CPI, USD/PKR, and INT to the performance of stock market proxied by KSEI (Model 2), hence respective nulls are rejected.

Meanwhile, the results of Model 3 as presented in Table 1 indicate that the null -- GDP does not G-cause the performance of stock market proxied by KSER --cannot be accepted. It shows that economic growth (GDP) is an indicator of the expected future direction of the stock market. In contrast, the null of -- performance of stock market proxied by KSER does not cause GDP --cannot be rejected and hence, supports the absence of causation effect between KSER and economic growth (GDP). Similarly, uni-directional G-causality exists from CPI, M2, EXR, INT to the performance of stock market proxied by KSER, hence respective nulls are rejected.

The estimated results of Model 4 are presented in Table 1. The performance of stock market proxied by KSETV indicates no G-causality between GDP and stock market performance. However, uni-directional causation effect is found from KSETV to SAV and from INT to KSETV. Finally, the results of Model 5 as given in

Table 1 indicate that the null of-- GDP does not G-cause stock market performance proxied by KSETO -- cannot be rejected, which indicates no causation effect of economic growth on stock market performance and vice versa. Besides, the results indicate uni-directional G-causality from inflation (CPI) and savings (SAV) to the performance of the stock market of Pakistan proxied by KSETO, which further indicates that the values of macroeconomic indicators hold information that help to predict expected future fluctuations in the stock markets of emerging economies like Pakistan.

System of Simultaneous Equations

The existence of bi-directional G-causation between economic growth and Pakistan stock market performance proxied by KSECAP allowed us to estimate the bi-directional causation between the performance of stock market proxied by KSECAP and economic growth along with selected macroeconomic indicators using a system of simultaneous equations specified in a linear form as follows:

$$KSECAP_t=\alpha_0+\alpha_1 GDP_t+ \alpha_2 TAX_t+\alpha_3 CPI_t+\alpha_4 M2_t+\alpha_5 EXR_t+\alpha_6 SAV_t++\varepsilon_t \quad (1)$$

$$GDP_t=\beta_0+\beta_1 KSECAP_{t+} \beta_2 TAX_t+\beta_3 CPI_t+\beta_4 M2_t+\beta_5 EXR_t+\beta_6 INT_t+\varepsilon_t \quad (2)$$

Since the decision about the method of estimation for a system of simultaneous equations depends on the identification of each equation in the system, therefore, the identification status of each equation must be checked first. This has been done by applying the Order Condition or Counting Rule (Butt, 1999) which is stated below.

> *"An equation is said to be identified (over-identified) if P-$P_1 \geq E_1$ -1, where P denotes the number of pre-determined variables included in the system of simultaneous equations and P_1 denotes the number of pre-determined variables included in the equation being examined for identification and E_1 denotes the number of endogenous variables included in the equation being examined for identification."*

Identification Status of Equation (1)

As P = 6 (TAX, CPI, M2, EXR, SAV, and INT), P_1=5 (TAX, CPI, M2, EXR, and SAV) and E_1=2 (KSECAP and GDP), therefore, P-P_1=6-5 or 1 and E_1-1=2-1 or 1. Hence, as per the above identification rule equation (1) is exactly identified.

Identification Status of Equation (2)

As P = 6 (TAX, CPI, M2, EXR, SAV, and INT), P_1=5 (TAX, M2, EXR, SAV, and INT) and E_1 =2 (KSECAP and GDP), therefore, P-P_1=6-5 or 1 and E_1-1=2-1 or 1. Hence, as per the identification rule equation (2) is also exactly identified.

Table 2

Results of Equation (1), Dependent Variable is KSECAP

Variables	Coefficients	Standard error	*t*-value	P-value
C	2.55E+10	5.85E+09	4.361	0.000
GDP	-0.2133	0.081938	-2.603	0.009
TAX	2.081839	0.523133	3.979	0.000
CPI	-1.06E+09	1.05E+08	-10.104	0.000
M2	0.019	0.002	7.405	0.000
EXR	-1.19E+09	7.41E+07	-16.067	0.000
SAV	2.517	0.109	23.012	0.000
R^2		0.939		
Adj. R^2		0.937		
Standard error of regression		4.24E+09		
F – Statistics		624.984		
Probability (F - Statistics)		0.000		

Note: Method: Two-Stage Least Squares (2SLS) and Included Observations: 252

It was established above by the order condition that both equations in the system are exactly identified, therefore, they are estimated by 2SLS to obtain consistent and efficient parameter estimates and the results generated from there are presented in Table 2 and Table 3, respectively.

The estimated results of equation (1) of the system given in Table 2 indicate that the coefficients associated with GDP or an indicator of economic growth ($\alpha\hat{}_1$ = -0.213300), CPI or inflation

($\alpha\hat{}_3$= -1.06E+09), EXR or US$/PKR exchange rate ($\alpha\hat{}_5$= -1.19E+09) having a negative sign influence KSECAP inversely. This means that an increase in GDP, inflation and exchange rate leads to a decline in Pakistan stock market proxied by KSECAP. Estimated results of equation (1) given in Table 2 also reveal that the coefficients associated with TAX or tax on products ($\alpha\hat{}_2$= 2.081839), M2 or money supply ($\alpha\hat{}_4$= 0.017816), and SAV or savings ($\alpha\hat{}_6$ = 2.517727) having a positive sign affect the performance of the stock market of Pakistan (KSECAP) directly. This means that an increase in tax on products, money supply and savings lead to a rise in Pakistan stock market performance (KSECAP).

For interpreting the results estimated by 2SLS, R^2 is an important statistic of each model. Hence, F-Statistic and its p-value are imperative to determine the strength of the statistical results (Asteriou & Hall, 2007). The values of R^2 (=0.938672) and the Adjusted R^2 (=0.937170) indicate the very high explanatory power of the model as specified above in equation (1). The estimated F-statistic (=624.9839) is highly significant as its p-value is 0.000. It indicates that the model embodied in equation (1) above is highly significant having an explanatory power of 93.7%.

Table 3 represents the estimated results of equation (2) of the system. The results show that for the coefficients associated with KSECAP or the performance of the stock market of Pakistan ($\beta\hat{}_1$= -0.109971), TAX or tax on products ($\beta\hat{}_2$= -1.910868) and EXR or US$/PKR exchange rate ($\beta\hat{}_4$= - 4.75E+08), having a negative sign indicates the inverse impact of these variables on economic growth of Pakistan. Whereas, for the coefficients associated with M2 or money supply ($\beta\hat{}_3$= 0.029227), SAV or savings ($\beta\hat{}_5$ = 0.794528), and INT or interest rate ($\beta\hat{}_6$ = 5.39E+08), having a positive sign shows a direct impact of these variables on economic growth of Pakistan. Moreover, statistical results demonstrate the very high explanatory power of the model specified in equation (2), which is evident by the high values of R^2 (=0.997339) and adjusted R^2 (=0.997273). Furthermore, the results indicate that F-statistic (=15301.53) is significant (p-value= 0.000) which shows that the model embodied in equation (2) is also highly significant.

Table 3

Estimated Results of Equation (2), Dependent Variable is GDP

Variable	Coeff.	Std; Error	*t*-Value	P Value
C	4.61E+10	2.80E+09	16.436	0.000
KSECAP	-0.109	0.038	-2.899	0.004
TAX	-1.910	0.359	-5.316	0.000
M2	0.029	0.001	57.331	0.000
EXR	-4.75E+08	5.07E+07	-9.364	0.000
SAV	0.794	0.101	7.795	0.000
INT	5.39E+08	6.89E+07	7.822	0.000
R^2		0.998		
Adj. R^2		0.997		
Standard error of regression		2.97E+09		
F – Statistics		15301.53		
Probability (F - Statistics)		0.000		

Note: Method: Two-Stage Least Squares (2SLS) and Included Observations: 252

The estimated results presented in Table-2 and Table-3 of equations (1) and (2) of the simultaneous equations system, respectively, and obtained by 2SLS estimation technique conclude that economic growth of Pakistan affects the stock market significantly and simultaneously, the stock market of Pakistan proxied by KSECAP has a significant impact on its economic growth. These findings are aligned with (Abdalla & Dafaalla, 2011).

Conclusion

We attempt to examine causality between economic growth and stock market performance of Pakistan. Estimated results reveal bi-directional G-causality between the economic growth of Pakistan and the performance of its stock market gauged by Karachi Stock Exchange capitalization (KSECAP. After establishing this bi-directional causality, the study also examined the impact of the economic growth of Pakistan along with selected macroeconomic

indicators on the performance of its stock market based on simultaneous equations system estimated by 2SLS. Estimated results lead to the conclusion that economic growth of Pakistan has a significant influence on its stock market performance assessed by KSECAP and vice versa. The implications of the study are of paramount importance, especially for emerging economies. Hence, bearing in mind the role of macroeconomic indicators in the performance of stock market a better policy can be formulated to enhance the growth of capital markets that, in turn, will increase the economic growth of emerging economies like Pakistan and vice versa. Certain recommendations are put forth to undertake further empirical studies. Future studies can pursue micro issues to establish a relationship between stock market performance in emerging economies and the performance of listed companies through firm level variables such as earning per share and price to earnings ratio.

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